ABSTRACT

A liquid crystal display device and a driving method thereof wherein a change in a charge rate of a thin film transistor compensates for an externally applied frequency variation upon driving of the liquid crystal display device so as to improve the picture quality. In the device, a timing controller receiving control signals from a host system. A frequency detector is connected to either the input terminal or the output terminal of the timing controller to detect the control signals. A compensation voltage setting part compensates for the driving voltage in response to the control signals detected from the frequency detector so as to adjust a charge time of each thin film transistor. A digital to digital converter generates a compensation voltage set by the compensation voltage setting part to deliver the compensation voltage to a liquid crystal display panel. Accordingly, the common voltage and/or the gate high voltage, changed in accordance with an extremely applied frequency variation, are set to optimum values and thus are compensated so that a constant picture quality can be maintained irrespectively of such a frequency variation.